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MCCDC Information Paper
Capt T. M. Gainor, 20 Apr 01



Joint Surveillance and Target Attack Radar System-Connectivity—JSTARS-C

Purpose. Provide the Deputy Commanding General, MCCDC with information on the latest developments and future trends of the Joint Surveillance and Target Attack Radar System-Connectivity (JSTARS-C).

Background Information.

- The Joint Surveillance Target Attack Radar System (JSTARS) is a joint, ACAT ID, program.
- The U.S. Air Force is the lead service for the airborne segment, a refurbished 707 airframe designated the E-8C, with a unique JSTARS payload. The U.S. Army is the lead service for the ground segment, which is called the Joint STARS Common Ground Station (CGS), and is designated the AN/TSQ-179 (V) 1.
- The Marine Corps has an Operational Requirements Document (ORD) for JSTARS Connectivity, CCC 11.15, 7 February 97. Change 1 to the ORD dated 12 August 1999 slides the Initial Operational Capability (IOC) to 2nd quarter of FY 02, and Full Operational Capability (FOC) by FY 04. The ORD with Change 1 states the requirement for Joint STARS data, including MTI, FTI and SAR to be available in near real time to every MEF. The AAO is for three CGS(s) and five JSWS. Each MEF will receive one CGS and JSWS and a JSWS will be acquired for the intelligence school and for testing and integration purposes.
- An interim ADM dated 9 July 1998 directed the PM to seek requirements relief and re-baseline the program. JSTARS Operational Requirements Document (ORD) change dated 12 Aug 1999 reduced the AAO from 57 to 8 sites. A material solution of three CGS(s) and five JSWS(s) will be procured to meet the AAO.

Operational Concept.

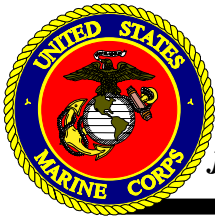
- JSTARS-C is intended to Receive, process, display Moving Target Indicator, (MTI), Synthetic Aperture Radar (SAR) and Fixed Target Indicator (FTI) data received from JSTARS E8 aircraft and other emerging sensors such as U-2 Enhanced Moving Target Indicator,

Advanced Reconnaissance Low (ARL), Space Based Radar (SBR), Global Hawk (HAE UAV).

- JSTARS-C will forward critical JSTARS data and other critical combat Information, directly to MAGTF Commanders and Staffs.
- JSTARS-C data will be fused to MAGTF GCCS-M systems.
- JSTARS-C capability will reside in and be operated/maintained by personnel in the supported units command posts at intelligence, operations, fire support, and plans centers and staff sections such as the CIC (MAFC, SARC, OCAC), COC and FFCC.

Current JSTARS-C issues.

- The Navy has not been able to obtain the required funding needed to continue with development of GCCS-M client software. The Marine Corps was anticipating leveraging off of the Navy's efforts. However, in order to meet the JSTARS ORD requirements, the Marine Corps will have to fund for the continued development and testing of the client software.
- The issue is getting the required funding to continue with the software development and testing.
- During FY01 Motorola will start the Block 10, Group 2, Pre-Planned Product Improvement (P3I) modifications planned for the CGS(s). The upgraded AN/TSQ-179 (V) 2 hardware/software configuration was developed providing: a full functional Remote Workstation, additional sensor data, imagery capability, and other modifications increasing the capability and functionality of the CGS(s). Only two of the Marine Corps' CGS(s) will require retrofit. Originally the cost for this effort was estimated to be \$948,000.00, however, that amount has increased to \$1,360,000.00, resulting in a short fall of \$412,000.00 in Procurement, Marine Corps (PMC) funds.
- This P3I modification will require a vehicle with a higher rear-axle payload capacity. To maintain the M1097A2 and be able to obtain the increased capability and functionality provided by the CGS P3I modifications, funding will be required for independent testing of the M1097A2 to



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determine the maximum payload capacity of the vehicle's rear-axle and to procure modifications kits to increase the payload. It is estimated that \$300,000.00 in Research, Development, Test and Evaluation Funds (RDT&E) will be required for conducting independent testing and an additional \$200,000 in PMC for the procurement and installation of modification kits, and to change the technical manuals.

- During FY02 and FY04 Motorola will start the Block 10, Group 4, Pre-Planned Product Improvement (P3I) modifications planned for the CGS(s) and JSWS(s). The P3I upgraded AN/TSQ-179B(V)2 and AN/TSQ-220 hardware/software configuration will provide: JTT(s) to replace the CTT3(s), integration of JCC software into CGS and JSWS system, AIT (MIL-STD-188-184 Protocol), SATCOM interoperability. Graphic Symbol Display, Link 16 Integration, CGS Wizard, SATCOM on the move, Apache/IDM relay link, ARL TCDL Link and NATO Advanced Radar Sensor (ARS). All three CGS(s) and five JSWS(s) will require retrofit. The estimated cost for these P3I initiatives is \$3,953 in FY02 PMC funds and \$2,288 in FY04, PMC Funds.

JSTARS Chronology.

- Feb 97 – JSTARS ORD.
- Jul 98 – ADM requirements re-baseline request.
- Jun 99 – ADM authorizing procurement.
- Aug 99 – ORD Ch-1 AAO reduced from 57 to 8 sites.
- IOC 02.
- FOC 04.

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